

Remarks/Arguments

Reconsideration of the above-identified application in view of the present amendment is respectfully requested.

By the present amendment, claims 1, 8, 10, 18 and 19 are amended, claims 2-7, 9, 23 and 24 are cancelled, and new claims 25-40 are added. Thus, claims 1, 8, 10-22 and 25-40 are pending in the application.

In the Office Action of February 9th, claim 7 was objected to in that there is insufficient antecedent basis for the limitation "the threaded portion". Claim 7 has now been cancelled and as such the objection is moot.

Claims 1 and 7-24 were rejected in the Office Action under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,908,212 to Smith et al.

In relation to claim 1, the Office Action states that Smith et al. discloses a "riser" connector. This position is respectfully traversed. The Examiner has adopted a general dictionary definition of the term "riser" which he states as "a vertical pipe (as for water or gas)...". In view of this, the Examiner states that because Smith et al. discloses a coupling for a downhole pipe running vertically into the ground, the Smith et al. prior art rejection is maintained. It is the Applicant's view that such a generalized definition of the term "riser" is improper.

In the oil and gas exploration and production industry, the term "riser" has a specific meaning which does not extend to cover pipes which are located in a downhole. It is well known in the art that a "riser", in the oil and gas industry, designates a pipe line which extends from a well-head on the sea-bed to the surface. This argument was previously submitted, however, the Examiner states that "the

Applicant does not supply any support that the term “riser” only applies to pipes extending from a sea floor”. In response to this, the Examiner’s attention is drawn to each of the prior art references newly cited in the outstanding Office Action.

Referring initially to US 6,494,499 to Galle et al., it states in column 1, lines 10 to 12 that “[i]n some offshore production facilities, riser pipes are used to convey well fluids from a wellhead at the sea floor to a production platform”. In addition, US 6,478,344 to Pallini et al. states in column 1, lines 16 to 19 that “[i]n offshore production applications, a plurality of tubular riser elements are joined together in an end-to-end configuration and extend from a subsea well assembly to a surface platform”.

Further, US 5,794,985 to Mallis states in column 1, lines 30 to 33 that “[i]t is contemplated that this type connection will be used mostly on underwater pipelines, risers, and offshore conductor pipe which places the connection underwater in each instance”. Thus, according to Mallis, a riser is located underwater (and therefore not a downhole).

Further still, in US 5,505,502 to Smith et al., it is stated in column 1, lines 7 to 10 that “[t]his invention is directed to threaded connectors or couplings to be used in connecting together adjacent sections of pipe in a conduit or pipeline, or in a tubular pipe riser in an underwater environment”. Thus, according to Smith et al., a pipe riser is located in an underwater environment (and therefore not downhole). Additionally, Smith et al. states in column 1, lines 19 to 22 that “[i]n offshore floating production operations, a pipe riser provides a conduit for producing a fluid from a well, drilled in the ocean floor, to an oil and/or gas production facility at the ocean

surface". Furthermore, it is stated in column 1, lines 29 to 31 that "[t]he production pipe riser is connected at its lower end to a subsea production wellhead and at its upper end to a floating production vessel ...". Moreover, in column 3, lines 38 to 42 it is stated, when referring to Figure 1, that "[p]roduction fluid from each well 15 is conveyed from the ocean floor well 15 through a production pipe riser 16 to a flow-control production fluid wellhead 17 located on a deck 18 of the floating platform".

In US 4,610,467 to Reimert, it is stated in column 1, lines 25 to 27 that "the pipe is extended from the ocean floor to the deck of the drilling structure and is known as a marine riser". This same statement is also made in US 4,429,904 in column 1, lines 21 to 23, and in US 4,410,204 in column 1, lines 17 to 19.

Finally, US 3,881,755 to Brunato states in column 1, lines 11 to 17 that "[o]ne of the main elements common to the known technologies is the "riser" tube ... fixed by means of a flexible seal joint to a safety equipment located at the wellhead on the seabed ... [t]his riser tube from the safety equipment extends upwardly to a determined level above the water level ...".

Accordingly, the prior art cited in the outstanding Office Action clearly defines a "riser" as a pipe which extends between a well-head on the sea-bed and the surface. None of the prior art references state or even suggest that a riser is or defines a downhole tubular. Thus, it is respectfully submitted that the definition of a "riser" in the oil and gas industry does not extend to a downhole pipe running vertically into the ground, as suggested by the Examiner.

With regard to the cited patent to Smith et al., it is respectfully submitted that Smith et al. only discloses an ultra high torque double shoulder joint directed to maximizing the torsional strength of a threaded connection for a downhole tubular. Accordingly, it is respectfully submitted that Smith et al. does not disclose a "riser connector".

In order to provide a more positive definition of the term "riser" in the claims, claim 1 has been amended to recite "[a] riser connector for connecting first and second tubulars of an offshore riser for transporting fluids between a well-head at the sea-bed and the surface". This amendment is supported by the description on page 1, lines 5 to 9. Accordingly, for the reasons discussed above, it is respectfully submitted that amended claim 1 is allowable over the cited patent to Smith et al.

Furthermore, the statement in the Office Action that "the focus of Smith et al.'s invention is irrelevant, as Smith et al. discloses all of the structural limitations recited by the Applicant" is respectfully traversed. As Smith et al. does not disclose a riser connector, it does not disclose all of the structural limitations recited in claim 1. Moreover, it is submitted that the focus of Smith et al. is indeed relevant, when compared to that of the present invention, as it assists to further differentiate the threaded connection of Smith et al. and the riser connector of the present invention, particularly in view of the Examiner's contention that Smith et al. also discloses a riser connector.

Referring once again to the newly cited prior art, it is clear that the ability of a riser to accommodate bending loads is of importance. For example, in Galle et al. in column 1, lines 13 and 14 it states that "the riser must be able to accommodate

bending moments". Additionally, in Pallini et al. in column 1, lines 20 to 23 it is stated "[a]dvances in drilling technology have made it possible to drill at greater water depths, subjecting the production risers to extremely high pressures and bending loads". Furthermore, in Smith et al. ('502) it is stated in column 1, lines 45 and 46 that "[s]uch [lateral] movement may cause tensile and bending stresses...".

In contrast, Smith et al. ('212) discloses a downhole drilling string which in normal use must be capable of withstanding high torsional loads. In view of this, Smith et al. discloses a specific tubular connector for solving or mitigating a problem common in downhole tubulars of maintaining the integrity of the tubulars when subjected to large torsional loads. The riser connector of the present invention, on the other hand, is specifically adapted to solve or mitigate a problem common in risers of maintaining structural integrity in light of large bending loads. As established above, a riser is not a downhole tubular.

In the present invention, the ability of the riser connector to transmit bending loads and maintain integrity under large bending stresses is achieved by the provision of specifically located and dimensioned axially extending portions on each part of the connector. Accordingly, the Examiner will note that claim 1 has been further amended to reflect this specific characteristic of the present invention. That is, claim 1 has been amended to recite that the connector comprises:

"a first portion on the first tubular, said first portion having first and second axially extending portions and a threaded portion positioned therebetween, the first axially extending portion being located between the threaded portion and the terminus of the first tubular; and

a second portion on the second tubular, said second portion having first and second axially extending portions and a threaded portion positioned therebetween, the first axially extending portion being located between the threaded portion and the terminus of the second tubular;

wherein the second axially extending portion of the first portion and the first axially extending portion of the second portion are greater in length than the first axially extending portion of the first portion and the second axially extending portion of the second portion”.

These specific limitations are neither disclosed or fairly suggested in the prior art. Accordingly, in view of the foregoing, it is respectfully submitted that amended claim 1 is allowable over Smith et al.

In light of the amendments made to claim 1, claims 7, 9, 23 and 24 have been cancelled.

It is further respectfully submitted that claims 8, 10 to 17 and 19 to 22, which depend wither directly or indirectly from claim 1, are allowable over Smith et al. at least on the basis on their dependency on an allowable base claim.

By the present amendment, method claim 18 has been amended to recite “[a] method for connecting a first tubular to a second tubular in a riser for transporting fluids between a well-head at the sea-bed and the surface, the connection being achieved via a riser connector according to claim 1...”. It is respectfully submitted that, based on the reasons set forth above, the patent to Smith et al. does not teach or disclose the features recited in claim 18. Thus, claim 18 is also allowable over Smith et al.

Claims 1 and 7-24 in the application were also rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,410,204 to Reimert. In light

of the amendments made to claim 1 as noted above, it is respectfully submitted that amended claim 1 is allowable over Reimert '204.

There is no disclosure or even suggestion in Reimert '204 that "the second axially extending portion of the first portion and the first axially extending portion of the second portion are greater in length than the first axially extending portion of the first portion and the second axially extending portion of the second portion". In fact, the Figures clearly show that lower guide void 74 is of the same length as upper guide void 86. The only suggestion in Reimert '204 of a variation in the size of the guide sections is in relation to the diameters of the respective guide sections. Accordingly, amended claim 1 is allowable over Reimert '204.

It is further respectfully submitted that claims 8, 10 to 17, and 19 to 22, which depend either directly or indirectly from claim 1, are considered to be allowable over Reimert '204 at least on the basis on their dependency on an allowable base claim.

By the present amendment, method claim 18 has been amended to recite "[a] method for connecting a first tubular to a second tubular in a riser for transporting fluids between a well-head at the sea-bed and the surface, the connection being achieved via a riser connector according to claim 1...". It is respectfully submitted that, based on the reasons set forth above, the patent to Reimert does not teach or disclose the features recited in claim 18. Thus, claim 18 is also allowable over Reimert.

New claims 25 to 40 have been added to further define the present invention and to distinguish the invention from the prior art references of record. It is respectfully submitted that new claims 25 to 40, which depend either directly or

indirectly from claim 1, are allowable over the cited patents to Smith et al. and Reimert at least on the basis on their dependency on an allowable base claim, and also for the specific limitations recited therein.

New claims 25 to 29 relate to the specific lengths of the first and second axially extending portions of the first and second portions of the tubular, support for which is found in the description on page 6, lines 1 to 8. The specific lengths defined in new claims 25 to 29 are not disclosed in the prior art.

New claims 30 and 31 are directed to the feature that the first and second axially extending portions of one tubular engage the second and first axially extending portions, respectively, of the other tubular. This is supported in the description, for example on page 3, lines 15 to 20. This feature is not disclosed in Smith et al. In fact, Smith et al teaches against any engagement as defined in new claims 30 and 31 in that Smith et al. requires a radial clearance of at least 0.03 inches, as shown in Figures 2 and 3 and stated in column 1, lines 47 and 48, column 2, lines 58 to 59 and 63 to 64, and column 7, lines 38 and 48. The provision of this radial gap in Smith et al would have a detrimental effect on the connection when subject to bending loads in that the gap would permit movement between the parts of the connector which may result in damage to any connector seal. This would accordingly adversely affect the integrity of the connector.

New claims 32, 33 and 34 are directed to the staged engagement of the respective axially extending portions during assembly, which is supported in the original description, for example in Figure 7 and the corresponding description thereof. The features of new claims 32 and 33 provide advantages in improving


alignment and protecting and stabilizing the pin metal seal nose during assembly. These advantages were fully discussed in Applicant's previous response filed on April 23, 2003.

New claims 35 to 40 are directed to the provision of one or more seals, support for which is provided in the description on page 4, lines 8 to 20.

In view of the foregoing, it is respectfully submitted that the above-identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,


Richard S. Wesorick
Reg. No. 40,871

TAROLLI, SUNDHEIM, COVELL,
& TUMMINO L.L.P.
526 Superior Avenue, Suite 1111
Cleveland, Ohio 44114-1400
Phone: (216) 621-2234
Fax: (216) 621-4072
Customer No.: 26,294